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ABSTRACT

The present paper is part of a long range research project in Developmental Kinesics. The gist of the project is empirical: the object is to find out what happens rather than look for anything in particular or test a hypothesis. The methodology for the analysis is ethological in approach. Empirical observations are carefully described. Subsequently, attempts are made to classify these observations according to the structure which emerges from the data, and to discern possible causes and effects. This specific paper presents the results of the sub-project dealing with Black Kinesics. Ten hours of live video tape were recorded. The subjects were 36 Black children, ranging from three to eighteen years of age. All children were healthy, of good intelligence, residents of Nashville, Tennessee, and from three different social backgrounds: professional, skilled and unskilled labor. Subjects were told stories by an adult and were asked to retell the story to other subjects. Interactants were randomly mixed and grouped according to age, sex, sibling status, and socioeconomic status. Most subjects appeared in three situations--as hearer to adult speaker, as speaker to another child, and as hearer to a child. The story teller and all the children were Black, as were all the technicians on the television crew who did the taping. Observations made as a result of the project show that the child's non-verbal behavior follows a developmental curve depending on age and that there are striking differences in behavior according to sex. (Author/JM)

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25TH ANNUAL MEETING

AMERICAN ANTHROPOLOGICAL ASSOCIATION

WASHINGTON, D.C. 1976

Panel on the Science of Body Language

THE NON-VERBAL BEHAVIOR OF CHILDREN IN A LISTENING SITUATION; THEORETICAL IMPLICATIONS AND PRACTICAL APPLICATIONS.

Walburga von Raffler-Engel, Ph.D. (Vanderbilt University)

With the collaboration of Brenda Hopson-Hasham, B.A.; Harold W. Jordan, M.D.; James M. Robinson, M.A.; Ami Ron, Judith Susser Ron, M.A.; Lionel F. Willoughby, M.D.; and twelve Black American children.

Teresa E. Snorton, B.A.;

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The present paper is part of a long range research project in Developmental Kinesics. The project as a whole originated in 1970 while I held a visiting professorship at the University of Ottawa in Canada. It is hoped eventually to create an audio-visual archive of films and video-tapes of children from birth to maturity from a variety of cultures and countries. Scope of the research is to see what elements in the developmental curve of the non-verbal behavior of the child are common to all groups. The first participant who joined me in this cross-cultural project in 1974 was Edna Shaw of Monash University in Australia. In 1975 Fred C. C. Peng at International Christian University in Tokyo obtained a grant from the Japanese Ministry of Education. In that same year Francisco Gomez de Matos of the Brazilian Center for Applied Linguistics joined forces. In 1976 Henning Wode at the University of Kiel initiated the pertinent research in Germany and Akiba Cohen of Hebrew University joined for Israel.

The Cross-Cultural
^Project in Developmental Kinesics was officially announced at the Third International Symposium in Child Language at the University of London, September 1975. An application for funding to the National Science Foundation is pending and negotations are under way with the Smithsonian Institution for archiving the cross-cultural audio-visual materials. The gist of the project is empirical. I want to find out what happens rather than look for anything in particular or test a hypothesis. The methodology for the analysis is ethological in approach. Empirical observations are carefully described. Subsequently, we attempt to classify these observations according to the structure which emerges from the data. We then try to discern possible causes and effects. For particulars, I follow Ekman (Paul Ekman and Wallace V. Friesen "Hand movements", Journal of Communication 22, 1972, p. 353-374.) and Kendon (Adam Kendon, "Some Relationships Between Body Motion and Speech" from A. Seigman and B. Pope, eds., Studies in Dyadic Communication, Elmsford, New York:

Pergamon Press, 1972, p. 177-210.) Within the United States, the Project is divided into various sub-projects.

This specific paper presents the results of the sub-project dealing with Black Kinesics. In the Spring of 1975 I obtained public service funding from WTVF Channel 5, a local television station in Nashville, Tennessee, Merle Emory, public service director, Oprah Winfrey in charge of community relations.

With the help of my then student, Mrs. Brenda Hopson-Hasham, assisted by her cousin, Miss Teresa E. Snorton, also a student at Vanderbilt University, we recorded a total of ten hours of live video tape. Our subjects were 36 Black children, ranging from three to eighteen years of age. All children were normal, healthly and of good intelligence. The children were all residents of Nashville, Tennessee and came from three different social backgrounds: professional, skilled and unskilled labor. Their fathers' occupations went from surgeon to steel cutter to general clerk; their mothers' occupations from attorney to secretary to charwoman. Several mothers were housewives. All parents have given written consent to this research project.

Upon arrival at the television station, subjects were given a tour of the studio in order to become familiarized with the setting but remained in a waiting room before taping, and after taping were taken into another room to have cookies and snacks. Subjects were toled stories by the adult (Brenda Hopson-Hasham), and were asked to retell the story to other subjects. Interactants were randomly mixed and grouped according to age, sex, sibling status, and socio-economic status. Most subjects appeared in three situations— as hearer to adult speaker, as speaker to another child, and as hearer to a child. Several unstructured regular conversational interactions were also filmed.

Brenda Hopson-Hasham, who told the stories, and all the children are Black. All the technicians on the television crew who did the taping for us were black and so was Teresa Snorton who helped me in accompanying the children to and from

the waiting room to the television studio. The children were driven from their homes to the television station either by their parents or by Mrs. Hopson-Basham and myself. One evening we used the shuttle bus provided by the Nashville University Center.

From our data we will be able to look for differences in the children's behavior, as listeners as well as speakers, according to age, sex, social class, and inter-personal relationships among children and between children and adults, not to mention the adjustment of the adult to the child. Basically, in this study the speech event was a story-telling session, the rule for story-telling being that the adult would tell a story and the child was to listen and to take his turn later and tell the story to another child. No actual specifications as to the child's performance during the interaction were made. Constraints were realized by the formal setting and the child's understanding (or orders from the parents) as to what a story-telling situation requires. It is assumed that the children had all participated in story-telling situations and had been socialized to conform to the rules or were in the process of being socialized to conform to the rules - at home and/or in school.

Each child was asked to listen to the adult who would tell him/her a story which he/she was supposed to retell to a child. The age of this child was not specified to him in advance. Only a group of three teen-age girls was told that they would have to retell the story to "small children."

All the children were told a fantasy story or a fairy tale. They were, however, not all told the same story. Given the difference in age and, more importantly, the fact that each child would also hear a story from another child, it was not possible to keep the content of the stories constant. Besides some common short stories and fairy tales, we used a short version of Virginia Hamilton's "How Jahdu took care of Trouble" from her book on Time-Ago Tales of Jahdu published by Macmillan, 1969. Written permission from the publisher was secured for the use of the material.

Brenda Hopson-Hasham and I then proceeded to analyze the data from the mastertape. We first had the TV station transfer the 2 inch professional tape to a series of Sony color cassettes so that we were able to evaluate the tape outside the television studio and also store it ourselves. From the color cassette we transferred the material to ½ inch black-and-white reels for evaluation at the Vanderbilt University Learning Resource Center. We carefully labelled each reel identifying each session to match the chart we had previously prepared with the date of each session and the names of the children involved. We had also prepared an alphabetical list of the names of all the subjects, their sex, their date and place of birth; number, sex, and ages of siblings; father's and mother's occuaption; and the name and grade of the school the subject was attending at the time. We used the inexpensive black-and-white reels for extensive viewing. Sometimes we would only listen to the audio portion and sometimes we would shut the audio portion out and concentrate our attention on the visual portion. At moments we would hold some pictures still. Some portions of the tapes were transposed on a second tape so that we could view certain sections on two different cameras at the same time in order to make comparisons.

Eventually, we prepared a third reel with the sessions that interested us for particular aspects of our research. For presentation of these sessions with lectures we would put them in the sequence that suited the lecture. The final product was prepared in the studio of the Learning Resource Center at Meharry Medical College with the assistance of Ami Ron of the Meharry Medical Education Project. Ami Ron helped with the editing of the finished documentary, this time again on a Sony color cassette. With the help of Mr. Ron we have also produced a television program, lasting one hour and showing significant portions from the master tape followed by a panel discussion of these sessions by experts from the fields of educational psychology, psychiatry, and pediatrics besides linguistics. WDCN-Channel 8 in Nashville, Tennessee reconverts the Sony color

cassette into 2 inch professional tape before our program can be shown on the air. This same 2 inch professional tape will be converted into a film in the studios of WTVF-Channel 5 in Nashville, Tennessee for distribution for educational purposes later on (Walburga von Raffler-Engel and Brenda Hopson-Hasham, What children say without words; a study in the non-verbal behavior of Black American children. A color film produced by Ami Ron, 1976.).

Preceding the paper I am presenting here, and besides the film, three other studies have come out of the sub-project on Black Kinesics. A first paper on "The adjustment of the speaker to the hearer" was presented by Brenda Hopson-Hasham at the Conference on Perspectives on Language at the University of Louisville in May 1976 and will be published in a book on Aspects of Non-Verbal Behavior by Trinity University Press edited by Bates Hoffer and myself. The second paper on "Homophonous self primers and back-channel elicitors" was prepared jointly by B. Hopson-Hasham and myself for the III World Congress of Phoneticians at Sophia University in Tokyo, Japan, August 1976, to be published in the Proceedings edited by Masao Onishi. A third sociolinguistic research is underway. The evaluation of the differences in the behavior of the children according to their socio-economic background proved most difficult and time consuming. The analysis of this aspect of the sub-project is scheduled for completion by the middle of 1977.

The fourth study and the one on which I am reporting in this paper is concerned with differences in speaker-hearer interaction depending on the age and sex of the child. While the first study that came out of the von Raffler-Engel and Hopson-Hasham Project on Black Kinesics addressed itself to the adjustment of the adult speaker to the child, the present research addresses itself primarily to the behavior of the child as a hearer.

Three age groups were selected for comparison, years five to six, years ten to eleven, and years fourteen to fifteen. Each child met singly with the adult storyteller (Brenda Hopson-Hasham, age 25) except for Tobin 5,4 who was

together with his brother Treg 3,0; and the three teenage girls who listened jointly to the story.

The sequence of these differing age groups was followed by an identical storytelling session with an eight year old child whose behavior proved especially interesting because this boy somehow defied classification by age. Calvin was physically of small size but intellectually and socially mature beyond his chronological age. He appeared to make an effort at convincing the adult speaker that he did not expect to be treated like an eight year old. His behavior proved so upsetting to the speaker that she closed the book and asked the child whether he wanted to hear the story. She also asked him what type of stories he liked to which he replied that he favored Irish stories.

Besides the age factor, we intended to watch for differences due to the sex of the children. As far as was possible, given the uneven distribution of boys and girls in the subject population, we have tried to match the children according to sex. When organizing the sequence of sessions for viewing in this fourth evaluation of the data, we have alternated a session with a male child with one with a female child of compatible age. The children came from varied socio-economic backgrounds, but the subject's social background will not be mentioned as it is irrelevant to the purpose of this study.

The total number of subjects was twelve and the average storytelling session between adult and child selected for this research lasted 2 minutes and 24 seconds.

SESSION	GROUP	NAME OF SUBJECT	SEX	AGE	MINUTES OF VIDEO-TAPE SESSION
I	1	Erica	F	5,1	2 min. 55 sec.
II		Hezekiah	M	5,4	1 min. 5 sec.
III		Tobin	M	5,4	3 min. 55 sec.
		Treg	M	3,0	
IV		Braina	F	6,3	0 min. 40 sec.
V	2	Andrew	M	10,4	1 min. 20 sec.
VI		Lisa	F	10,3	1 min. 40 sec.
VII		Tommy	M	11,2	2 min. 20 sec.
VIII	3	Michelle	F	14,5	
		Gail	F	15,3	3 min. 30 sec.
		Suzanne	F	14,10	
IX	4	Calvin	M	8,0	4 min. 10 sec.

The evaluation of the sequence of sessions was divided into two parts: (1) a technical analysis done by myself with the assistance of Brenda Hopson-Hasham (The detailed analysis, session by session, with statistically significant charts will be presented in a separate paper. It is not fully finished at the present time); (2) comments on the theoretical implications and practical applications of what can be deduced from viewing the nine sessions by specialists in the fields of Teaching English as a Second Language, Primary and Secondary Education, Mental Health, Pediatrics, and Linguistics.

The specialist in language teaching (TESL and TEFL), Mrs. Judith Susser Ron (M.A., Linguistics), viewed the tapes by herself without any time limit. I did the same while studying what implications may be drawn from these data for problems in linguistic theory. The other three specialists, at the suggestion of the film producer, Ami Ron, formed a panel in the Meharry studio which I monitored. The panel met for one hour and a half. The first hour was devoted to some informal discussion of the purpose of our meeting followed by viewing the video tape, session by session, with a five minute interval between each session for eventual note taking. This procedure was repeated twice. The last half hour was devoted to the official comments by the panel under live videotaping. The members of the panel were the following: Harold W. Jordan, M.D. (Psychiatry),Commissioner of Public Health, State of Tennessee; James M. Robinson, M.A. (Educational Psychology), Principal, Wharton Junior High School, Nashville, Tennessee; Loinel F. Willoughby, M.D., Assistant Professor of Pediatrics, Meharry Medical College. The three panelists are black and Mrs. Ron and myself are white.

Theoretical implications and Practical applications

All panelists mentioned that what they viewed on the camera had definite implications for improving school education, especially in the area of teacher training; for a better understanding of the child by the mental health worker and by the pediatrician.

It was remarked that so often we fail to respond to the non-verbal part of the child's behavior. Frequently this changes the quality of the feedback that we get and this prevents us from responding adequately to the type of feedback that this child is giving us. It is extremely important that the total feedback is properly observed. When we work with children we must not only listen to what the children say but we must also respond to the way they are acting non-verbally. It is unfortunate that we do not provide more mental health orientation for the teachers who perhaps are not prepared to deal with some of the varieties of behavior that children exhibit. A particular behavior which appears negative to the teacher may be misinterpreted by that teacher when in reality, from the child's perspective, that particular behavior is quite positive. In the video sessions there was one boy in particular who did not appear to be attentive at all, but when a certain passage of the story would strike his fancy he would retunr eye contact with the storyteller. This showed that he had been listening all along (Hezekiah, Session II).

Another boy whose response appeared totally negative and who seemed not to want to listen at all, at a certain moment made a comment which was excellent, exactly the type of comment a teacher wants from a student (Andrew, session V). This boy never established eye contact. Many teachers attribute great importance to eye contact and this boy demonstrated that eye contact is not essential to attention and understanding. Rather than judge each child within the context of his social and cultural background and within his own personal individuality, we come to the child with our oen preconceived notions about how children ought to behave. Teachers, mental health workers, and pediatricians may misinterpret cues on the

part of the child because they have decided a priori that children ought to look at the adult speaker, they ought to be quiet, they ought to be still, etc. Given our preconceived notions we assume that a child is not listening to us while in reality he is following us attentively. Among linguists, research in language acquisition has been especially deficient in allowing for individual variation. Although I warned of this misconception eight years ago ("Suprasegmental and substitution tests in first-language acquisition", Folia Linguistica 11, 3-4, 1968, p. 166-175), only now are linguists becoming aware of the fact that even babies have their own distinct personality traits.

When teaching a foreign language, story-telling in the language being learned can be used very effectively by the teacher to assess the students' level of comprehension. Here, the teacher has an excellent opportunity to look and listen for reactions, both non-verbal and verbal. However, if a rigid discipline and a strict code of behavior are imposed on the students, and they must sit silently and stiffly while listening, the teacher will be deprived of the benefits of an on-the-spot check of his students' comprehension of new material. The teacher will have no way of knowing who is comprehending and who is not. Only by later questioning and testing will he get some feedback on comprehension, though not as accurate or valid an assessment of comprehension as the immediate reactions can convey, and certainly no longer as helpful in the actual teaching process.

The data also document the differences of behavior between the sexes. The boys seemed to be more relaxed in the situation than the girls did in general. The girls appeared more conforming to the expected pattern of polite listening behavior. Again, this overt behavior may not be directly related to the actual intellectual involvement of the child. From portions of the data where the children retell the story, a portion which was not shown on these sessions but is available in the complete set of pictures, I can document the accuracy

of this statement. A subsequent study is planned to explore what, if any, in the overt behavior of the child signals his actual understanding. For that, and fifth, study I shall invite both black and white school teachers as independent judges. Most importantly, I shall ask the parents of the children who are to be tested to express their opinion.

One girl in particular seemed to sit with her hands tightly folded in her lap, perfect posture, staring directly at the storyteller, without really responding to the story. (Lisa, session VI) In general, the girls' setting appeared more structured. Their rigid posture was consistent with the expected behavior. They were more poised, more dignified, not necessarily responding verbally, as the boys did. The girls were quiet kinesically and verbally. They rarely asked questions in the middle of the story and certainly did not tend to blurt out comments of their own. The girls on their part were prompt in answering any question put to them by the storyteller. This same difference was noted by Mrs. Susser Ron when teaching English in New York City to newly arrived adolescent immigrants from the Dominican Republic. When these students were in class, listening to a story being read to them in English, the boys commented and questioned freely and loudly and often stood up when doing so. The girls rarely interrupted; they remained seated and raised their hands to question or comment.

The social implications for the same type of situation for a girl are quite different from those for boys. This is drilled into our girls throughout their development. When Mrs. Hopson-Hasham and myself invited the parents to bring their children to the studio, we did not specify anything about dress code nor were we asked about this matter by any parent. The interesting thing is that the girls all arrived in a Sunday dress type of clothing with careful hairdoes while boys wore neat but not formal garb. The careful preparation of the girls for the task may have had some bearing on their reaction. It served as immediate reinforcement that the girls should be formal and possibly nothing else. The more casual attire may have added to the boys' more animate behavior.

From the perspective of linguistic theory, again we see that it is futile to describe speech programming without situational referents. In her introspections on her behavior as the storyteller, Brenda Hopson-Hasham remarked that looking at how these children were dressed, she "had a feeling that we were in Sunday school and I was telling them a Bible story." The children sat very still and at a distance from the storyteller who felt that the situation was "a little bit like a school setting " where the children "wanted to perform well" and "be good, as admonished by their parents before coming to the studio." Sensing that the children treated the event like a test situation, she herself behaved accordingly, teacher-like.

Both boys and girls behave in a manner that is socially expected from them. These are learned roles. I should add here that at the WTVF studios, after the taping was over, all children were allowed to inspect the various rooms of the television station. The little girls would give me their hand and the older girls would very properly walk next to my side and look at things, asking questions of me here and there. The boys, large and small, started to run around wild and talked a lot among themselves. How far this divergent behavior was based on expectations and how far the differences between the sexes represent biological differences can not be assessed at the moment. All we know is that there is some duality in the manner children are reared. There is more pressure placed on girls to be conformist and it is possible that the same pressure is put on boys not to be conformist which, of course, implies just another type of conformity. It would be interesting to replicate my Project in Developmental Kinesics twenty years from now. In our present culture the expectations for boys and girls seem to become more and more similar.

The differences between the sexes in this project on Black Kinesics paralleled the one in a similar study I conducted with white children a year earlier (Children's Acquisition of Kinesics, Scarsdale, Conn.; Campus Film Distributors, 1974). Concerning differences along racial lines, little if any could be detected

so far either by the Black nor by the white observers. These were all Black children, but there was really nothing in their non-verbal behavior that could be identified as peculiar to Blacks. There were dialect differences among the children but this aspect will not be covered by the present paper. Research has been initiated some months ago but is still very incomplete. For the moment, suffice it to say that some children exhibit obvious traits of Black speech patterns.

It is essential that persons working with children know how to get the child involved so that they can get the needed cooperation from him, be they pediatricians exploring the antecedents of food poisoning or an accident, or teachers trying to get the child receptive to a new learning experience. The worker must monitor constantly to make sure he maintains the child' attention. He must be sensitive to the feedback coming from the child. When the story-teller mentioned a giant, Tobin's three year old brother commented " ho ho ho". (session III) This indicated some past experience with "the jolly green giant" on television or Jack and the Beanstalk. Such cues need to be attended and possibly picked up. The person working with a child can follow feedback from past experience and change his original speaking plan accordingly.

In her unconscious attempt to relate to the teenagers, the storyteller incorporates words she believes are familiar to them: "he booes; he was cool; he thought he was bad," words she had not used in telling the same story to other age groups (session VIII).

We all know that a child's age influences his reaction to certain types of approach. Some have studied this while mothers, and virtually everybody, have an almost automatic adjustment to the age of the child. When Mrs. Hopson-Hasham viewed her own behavior on the screen she remarked that throughout all the taping sessions she had never been aware of what she was doing. She was more animated with the younger children, had hardly any gesticulation with the teenagers until she recalled that the purpose of her telling the story to them was

not to entertain them but to provide them with a story suitable for retelling to a child. Only when viewing herself for the part of our project termed introspection did Mrs. Hopson-Hasham realize how puzzled she had been by Calvin's age-inappropriate behavior. She was astonished at her insecurity when the child's cues come across against her expectations and/or with unaccustomed delay(session IX).

In contrast to this situation which was not only novel but totally unexpected, Mrs. Hopson-Hasham recalls that she became immediately aware of her discomfort when sitting down with a group of teen-agers to tell them a fairy-tale type story. The situation was novel but not unexpected. She decided to gesticulate as little as possible lest "they think that she was stupid." She halted her flow of speech to wait for their feedback so that she would know how to best proceed. All the time she remained calm and in control of herself whereas Calvin's unexpected behavior had "thrown her off balance."

Content-wise there is a difference among the age groups. Little children like fantastic stories and enjoy visualizing unrealistic events. The younger children interrupted the storyteller at certain points finishing the story by themselves in whichever way they wanted. No such improvisations were noticed with the older children. There seems to be a wide variation among children at what age such improvisations cease. This is probably due to individual differences, but culture may also play an important part. School age children do not want fantasy, they want to be able to explain scientifically what is actually happening. As one goes up the chronological level, the desire for structure increases. Fantasizing is rejected at the same time that seating arrangements become more formal and the cultural rules for social interaction are internalized.

The age factor is particularly evident in session III. Tobin 5,4 and Treg 3,0 behave differently in the identical situation. Treg has not yet internalized the social rules, although he is aware of them. He interrupts the

storyteller, touches her, looks in the air away from her to imagine more freely, jumps on his seat. At a certain moment (not seen on the session) his father comes to the studio door. Treg feels the social constraint. He puts his back against the couch, watches the storyteller as he has possibly seen his parents watch visitors to the house. He starts participating in the manner he has seen others participate in a conversation. He sits back and nods his head as if he were older. The appearance of the father did not produce such a drastic change in the behavior of Tobin. Tobin had already internalized the rules for conversational behavior. He was all the time more keen to hear the story exactly as it was told. He was less participating and more intensely absorbed in listening, much less active kinesically.

The teenagers listened politely, did not participate in the storytelling act. Neither did they laugh for fun at the appropriate moments nor did they comment on the story for being ridiculous. Their facial expression appeared blasé, their posture was purposely set to appear dignified. They signalled to the adult that they considered her a peer, that they wanted to be treated as adults. They sat stiff as if they were at a tea party. They wanted to give approval and they wanted to be approved. To get the hearer involved it is needless to antagonize him. To the extent that this is feasible, the worker should acceed to the child's preference on how he wants to be treated.

Interestingly enough, Calvin manifested a similar reaction, but being younger felt less constraint in manifesting his reaction. Through his body movements he conveyed the impression that what he heard was really crazy, and not proper to be told to a child of his age. We have to remember that children are taught not to criticize adults verbally. As a way out, they resort to expressing their criticism by the non-verbal means of body movements. The little child is not yet taught to listen only to the words of what an adult communicates to him. He feels free to respond to all actions of the speaker, the movements

of his hands and other parts of the body. The small child sees himself as part of the story. Treg 3,0 (session III) imagines freely and feels no reservations about blurting it out and including it in the story. He speaks and acts with the characters of the story.

When trying to involve a small child the speaker has to bear in mind that the pre-schooler and first grader are less inhibited while at the same time more novel to a formal setting than the school child. The speaker must also remember that openly expressing his fantasies and "dreaming" with his face away from the teacher are natural to him. Grade school teachers also should bear in mind that their students undergo a period of change, from total involvement to emphasis on the spoken word. One major agent of change is the school itself. It was very clear from the pictures that the storyteller limited her body movements as the children grew older.

From the standpoint of linguistic theory, this brings out a most important point. The amount of kinestic activity is directly correlated to the number of paragraphs into which the story is subdivided. This is one more finding reinforcing my belief that the sentence is not necessarily a psycholinguistic prime (W. von Raffler-Engel, "Kinesics and Topic", The Language Sciences, October 1975, p. 39). The sentence is a grammatical unit. There are only very few linguists nowadays who would still claim that syntax precedes semantics in speech programming, but there are still many linguists who believe that a clear distinction can be made separating the two domains. I for one, believe that the rules for syntax, although theoretically separable from semantics, are in practice intertwined in the structure of the language, in speech programming, and in language acquisition. The psycho linguistic primes are discours and its meaningful subdivisions, such as sense-unit paragraphs. For the shorter attention span of the smaller child the story was broken up into shorter paragraphs, each transition being kinesically marked. As chronological age progresses, the

paragraphs become longer and gesticulation decreases on the part of the speaker.

The decline of the M.I.T. approach to language acquisition at the beginning of the seventies signalled a return to the inclusion of the environment in the study of child language. The absurd dychotomy between nativist and learning theories has finally given way to the search for the blaance between nature and nuture which I had proposed a dozen years ago (W. von Raffler-Engel, Il Prelinguaggio Infantile, Brecia: Paideia, 1964). Besides natural age differences, the pictures show very clearly how children model their behavior on that of parents and peers. The girls apparently imitated their mothers, hands folded in their laps. The boys sat with feet spread out, back often curved forward, hands on their knees.

Another point that is fundamental to linguistic theory is supported by the evidence from these data of the regular, and hence predictable, correlation of verbal and non-verbal factors in a given conversational setting. The awareness that communication is multi-channel, to use a term coined by Ray Birdwistell, (Kinesics and context; essays on body motion, Philadelphia, Pa.: University of Pennsylvania Press, 1970) is now generally accepted by the linguistic community. Modern linguists no longer see verbal language as totally independent from kinesics and paralinguistics.

It is extremely difficult to determine the boundaries of paralinguistics from linguistics proper. Our data suggest some of the complexities of this problem. An identical filler, such as you know, can act as a hesitation sound to give the speaker time to himself. In this case it is a self prodding device, a buffer, to use a very appropriate term coined by Mark L. Knapp (Non-verbal behavior, New York: Holt Rinehart, Winston, 1972). The same phrase you know in identical verbal context can also be a back channel elicitor to prod the hearer into signalling his reaction. The following chart will show the difference very clearly. It stems from our last session (session IX).

INSTANCES OF YOU KNOW

SPEAKER Storyteller-Brenda	INTONATION & DURATION	HEARER Calvin
Well, you know there was this lady	Level	No reaction
She'd reach out into the air you know and grab	Rising	Nods & turns to face Brenda
And, you know, he didn't mind a little trouble.	Level	No reaction
And, you know, that by this time	Extra Long Slight rise	Opens eyes wide Tilts head forward Then turns face to B.
And he said, "Wow!", you know and he said . . .	Falling	No reaction
And he thought he had caught him, you know and had tricked him	Extra Short	No reaction
Then he, you know, went back to whatever he was doing	Extra Short	No reaction
And finally when the giant came, you know to get all the people back in the barrel. . .	Rising	Nods his head after 'barrel'

* Buffers are underlined once.
Elicitors are underlined twice.

The question in my mind is to what extent features of intonation and duration are linguistic and to what extent they are paralinguistic. Ultimately, my question is whether there is a legitimate area of paralinguistics at all. It may be that paralinguistics has to be confined to expression as distinct from communication, following the dychotomy established by Erving Goffman (Strategic Interaction, Philadelphia, Pa: University of Pennsylvania Press, 1969). One still remains, however, with some very puzzling questions. A first one which comes readily to mind concerns the status of buffers. They really are part of expression rather than of communication. It may be possible, nevertheless, to distinguish an expression origin (the need for pausing or self-prodding) from a communication manifestation (a way to fill the void for the hearer or a cover-up for the speaker's embarrassment).

With the younger children the storyteller has a higher pitch level throughout than when she interacts with the older children. The raised tone correlates with her more animated gesticulation and the stylistic organization into shorter paragraphs. With a high voice the speaker is certainly not low key. How intricately all these behavioral factors are correlated remains to be researched. With the smaller child Mrs. Hopson-Hasham frequently repeated a vocabulary item. In session II, for example, she says "great big, big, big" to a five year old girl. Every time the word big is uttered it is underscored by a violent head nod. The rhythmic vocabulary repetition is paralleled by a rhythmic head movement. Linguistic and kinestic elements coincide. A wider gesticulation is practiced with the smaller child and this too is paralleled by a wider range of pitch variation. In addition to the overall range of pitch variation which is known to be larger when talking to small children, there were numerous single lexical items which were uttered in a more varied pitch in the sessions with the younger children. The identical word giant was pronounced on level intonation with older children and on rising-falling tone with the younger ones. The duration of the first syllable is also considerably longer in "small-child speech." 21

One very clear correlation between paralinguistics and kinestics was revealed by counting with a stopwatch. The frequency of illustrators is in direct relation

to phonation ratio: The lower the ratio of pauses to verbalization, the fewer the illustrators within a storytelling session. This again is in function of the interpersonal relationship. Speaking to smaller children produced a low phonation ratio and increased the time interval between explanatory gestures (illustrators). Facial expressiveness was not affected. Within the restricted domain of kinesics, a definite correlation emerged between proxemics, haptics, and illustrators. At closer proximately there was more touching. There were more illustrators. Sometimes the expanse of the illustrating movement was more narrow than when the wider distance between speech partner allowed for more spacious hand movements. More frequently, however, the proxemic nearness to the side or sides of the speaker channeled the direction of the arm movement in a vertical rather than the more usual horizontal direction. Proxemics and kinesics were directly related. There also existed a definite harmony, kinesic synchrony, between speaker and hearer.

What comes through unequivocally from the data is the fact that the form of language can not be described without reference to its use. This does not mean that it is the task of the linguist to analyze the total of human behavior. All I want to insist on is that language can be properly analyzed only when it is studied as part of human behavior. What is also apparent from viewing the conversational interaction on the camera is the necessity for linguists to work with scholars from other disciplines. For too many years inter-disciplinary exchange of ideas for linguists was restricted to psychology and philosophy. It took many a strong polemic to broaden the field and to reintroduce anthropology, once the natural partner of linguistics before the rise of the transformational-generative school. Gradually, folklore, sociology, ethnology, ethnography, and education reentered the field. The challenge to the innateness theory opened up research with neurologists and brain specialists. Linguists are working with specialists in speech and hearing. We are witnessing a gradual return to linguistic theory as an empirically testable science. In the training of the new generation of linguists in our universities the pendulum has not yet swung back

far enough. Many of our current Ph.D. programs concentrate still heavily on formal grammer and do not provide the student sufficient time and opportunity to explore medicine and the social sciences.

Mathematical models are useful but before constructing them, the linguistic analyst has to know what variables to look for. A limited study, such as the one on Black Kinesics presented in this paper, shows already what a myriad of factors apply to even a partial analysis of the data. For one like myself, who has always stressed the importance of team work (Il Prelinguaggio Infantile, Brescia: Paideia, 1964), it was rewarding to see how much more a group of analysts from diverse scholarly backgrounds working together can bring out in a relatively short time than one narrowly trained individual could accomplish in many man hours. I may even suggest that given the extended training needed to become a linguist, it may be advisable to require a longer period of study for the Ph.D. degree in Linguistics than is customary.

Before the study of linguistics retrenched to become little more than the study of English grammer, courses in Anthropology and field experience were standard requirements in graduate school. Eventually, as the object of study from exploring natural spoken language shifted to test sentences of the linguists' creation, participant observation was replaced by "native intuition". In our Black Kinesics Project, Brenda Hopson-Hasham as the story teller was a participant observer and at the same time object of study. Her behavior as a conversational interactant was studied by myself and the group of observers, but was also researched by herself through introspection. The procedure of making the participant observer(s) also object of study and of interviewing participants after they had a chance to view themselves on the screen has been applied at one time or other. Of particular importance in these regards is the work of Albert E. Scheflen (Communicational Structure: Analysis of a Psychotherapy Transaction. Bloomington, Ind.: Indiana University Press, 1973; see especially p. 385 n. 5).

What I am suggesting here is a consistent combination of participant observation and self-analysis.

The adult storyteller's introspection also helped to shed light on the behavior of the children. In reference to session III (Tobin 5,4 and his brother Treg 3,0) Mrs. Hopson-Hasham notes that "the children touch me, they like to be touched, they like my voice to change and for me to act out. The smaller children are curious about their surroundings; I had to work hard to maintain their attention; I had to make lots of verbal shifts; I used lots of gesticulation with them. I tried to make them live the story with me." Her own behavior is quite the opposite with the teenagers. She feels that she has to be "very quiet kinesically." At every moment of her storytelling she is sensitive to the reaction of her audience. This points to the impossibility of evaluating the language and/or non-verbal behavior of a speaker without reference to the hearer. In such a rarefied, one-sided analysis, one can, of course, arrive at an accurate description, but such an analysis is inadequate and has hardly any explanatory power. Speech programming, inclusive of paralinguistics and kinesics, cannot be understood as a one-way linear process. Not only does the speaker have a certain audience in mind from the start, he is also constantly influenced by the hearer's back channeling cues.

Speech programming is not generated according to pre-set transformational rules. The speaker knows the rules of his language, the rules of social interaction, and the consequent rules of sociolinguistic behavior. The application of the rules depend heavily on hearer reaction. The "interminacy principle" discussed by Hugh Neham ("Language using abilities" The Language Sciences no. 22, October 1972, p. 1-10) prevails throughout any communicative interaction. The use of language and of non-verbal behavior determines its form, step by step. The latter was particularly evident in session IX (Calvin).

To summarize, the pictures show that the child's non-verbal behavior follows a developmental curve depending on age; They manifest striking differences according to sex. They show that each child has a marked personality of his own.

All these factors affect the way the child reacts to the situation and the inter-personal relationship involved in the conversational setting. The pictures demonstrate the correlation which obtains between the verbal and the non-verbal aspects of communicative interaction.